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Ms Leslie Schaeffer
Protected Resources Division
National Marine Fisheries Service
525 NE Oregon St
Portland, OR 97232-2737

Dear Leslie -

I am hereby requesting a modification to Permit #1330 to include coverage for sampling of listed Lower Columbia coho, increased encounters with listed Lower Columbia steelhead, and the addition of two more sampling locations in the North Fork Toutle drainage. If the modifications are granted, sampling would continue to occur as a part of the ongoing study we have been conducting in Herrington Creek and Hoffstadt Creek since 1983, and in two additional streams to supplement an ongoing radio telemetry study.

Justification:

Lower Columbia Steelhead: Permit #1330 was granted in 2000 to allow juvenile fish sampling to continue in Herrington Creek following the listing of lower Columbia steelhead as "threatened". In 2002, we were granted a modification of our permit to include sampling in Hoffstadt Creek where listed steelhead adults are released from the trap and haul facility associated with the sediment retention dam on the N Fk Toutle River. This permit modification was granted without raising the total allowable captures or indirect mortality estimated from our encounters with listed fish in Herrington Creek. In order to remain within the authorized take, we discontinued our early summer sampling, thereby reducing our sampling effort by half compared to the pre-listing level. Over the past few years, increased transport of adult steelhead to Hoffstadt Creek and a robust steelhead population in Herrington Creek have resulted in higher densities of juvenile steelhead in our research sites, limiting our ability to collect the required data for our study.

Unfortunately, we now find that the end of summer samples are impossible to complete without exceeding our permitted steelhead captures. To obtain a statistically reliable estimate of juvenile density, we need to sample approximately 14 channel units in each

stream. At current steelhead densities, we estimate that sampling 14 channel units in both research streams would result in 650 captures. Indirect mortality has been low over the duration of our permit, and we are confident that we could conduct our sampling with less than 1% of captures suffering indirect mortality. I am requesting that we receive authorization to capture, handle, and release a total of 650 juvenile steelhead each year in Hoffstadt Creek and Herrington Creeks (combined), with indirect mortality not to exceed 7 individuals.

Lower Columbia Coho: The listing of coho as threatened also creates a need to modify our permit to allow for continued sampling. Coho occur naturally in Herrington Creek, and adult coho are transported to Hoffstadt Creek from the N Fk Toutle fish trapping facility. During the end of summer surveys conducted over the past 4 years we have encountered a total of between 22 and 145 juvenile coho during our end of summer sampling. Mortality of the juvenile coho has been minimal, with only 2 mortalities observed for the 288 coho sampled. I am therefore requesting that we receive authorization to capture, handle, and release 200 coho per year in Hoffstadt Creek and Herrington Creeks (combined), with a maximum allowed indirect mortality of 2 per year.

If more information about the results of our ongoing research in Herrington and Hoffstadt Creeks is required, a summary of our first 20 years of sampling was included as a chapter in a recently published book:

> Peter A. Bisson, Charles M. Crisafulli, Brian R. Fransen, Robert E. Lucas, and Charles P. Hawkins. 2005. Responses of fish to the 1980 eruption of Mt St Helens. pp 163-182. In: Virginia H. Dale, Frederick J. Swanson, and Charles M. Crisafulli [editors]. Ecological responses to the 1980 eruption of Mount St Helens. Springer Science and Business Media. New York, NY.

Collaboration opportunity: A recently established radio telemetry study initiated by the Cowlitz Tribe, Washington Department of Fish and Wildlife, USGS, and US Army Corps of Engineers will assess the effectiveness of the ongoing trap and haul operations associated with the N Fk Toutle sediment retention dam. Adults transported above the sediment dam will be tracked to determine patterns of movement following release and to identify the important spawning locations above the sediment retention dam. One of the release sites for tagged fish occurs within our research site at Hoffstadt Creek. Consistent with the requirements and objectives of our permit, we have been in contact with the project sponsors to explore collaborative opportunities to maximize the value of data collected within our respective research projects.

By pooling our annual juvenile fish density estimates and the adult release records provided by the telemetry project sponsors for Hoffstadt Creek, we examined how successful the adult releases have been in producing juvenile fish. We were able to demonstrate that steelhead transported from the Toutle fish trap below the sediment dam into Hoffstadt Creek are successful in producing high juvenile densities. There is also a clear relationship between the number of adults transported and the juvenile densities we

observe, which may indicate that the capacity of the stream to support steelhead may not yet have been exceeded at current stocking levels (Figure 1).

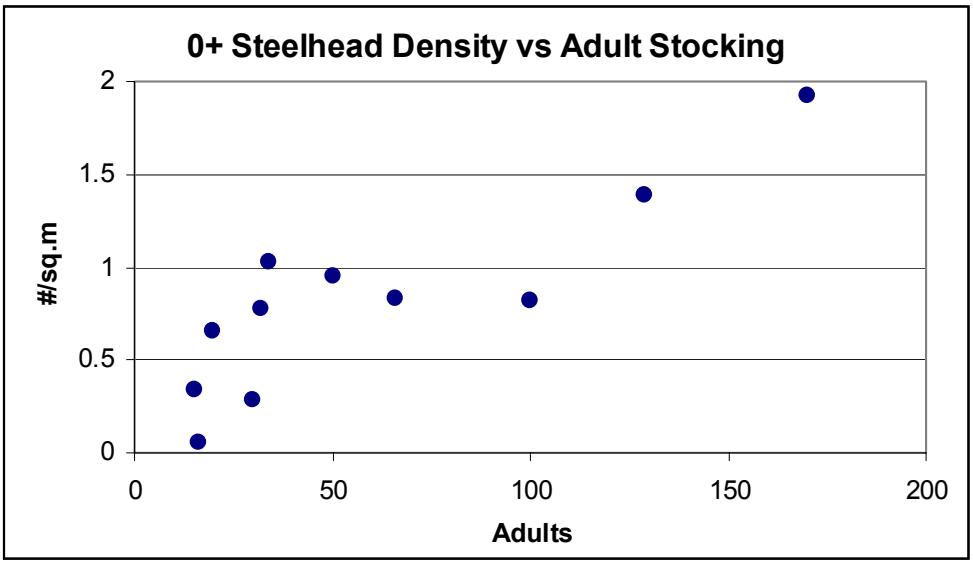

Figure 1. Juvenile steelhead density response to adult stocking.

Conversely, similar numbers of adult coho transported to Hoffstadt Creek are not resulting in significant numbers of juveniles (Figure 2).

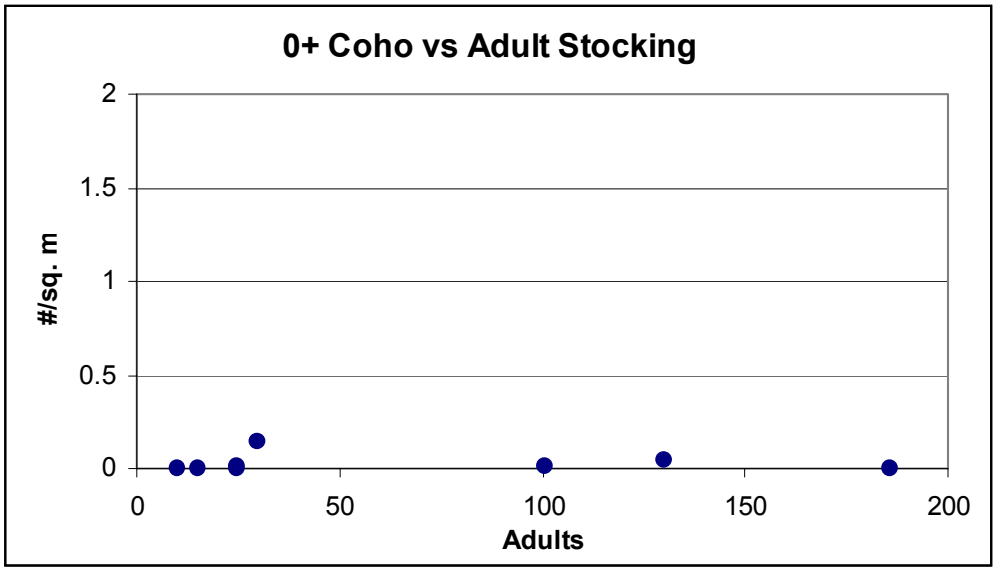

Figure 2. Coho juvenile density response to adult stocking.

Data collected in Hoffstadt Creek during the 1980's, when large numbers of coho were stocked as juveniles, demonstrated the capacity of the stream to support relatively high densities of rearing coho, at least at that time Figure 3). Since the mid 1980s, habitat conditions in Hoffstadt Creek have improved with the reestablishment of riparian vegetation. Therefore, rearing habitat limitations are unlikely to be restricting population success.

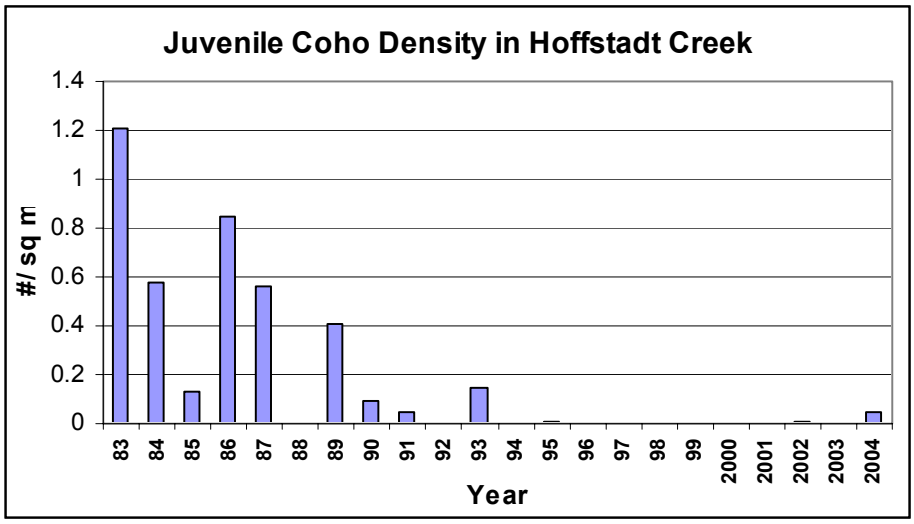

Figure 3. Juvenile coho densities over the period of record. Stocking of juvenile coho was discontinued around 1990. Release of adults began in 1992.

The apparent failure of the adult coho releases raises an obvious question of whether adults released in Hoffstadt Creek are simply moving out of the system immediately following release or whether there are factors at work within the stream that prevent successful spawning and/or incubation by coho. The radio telemetry project already in place will answer the question of whether transported adult coho are leaving Hoffstadt Creek before they spawn or remain in the creek without successfully spawning and/or incubating.

The surprising results of this assessment raise questions about the success of coho and steelhead in the other 2 adult release sites on the N Fk Toutle River at Bear Creek and Alder Creek. Based on the findings at Hoffstadt Creek, inferring population benefits from the trap and haul program may be risky. Without assessing juvenile abundance, it is impossible to determine the population response to the trap and haul program. The radio telemetry project can only characterize the movement patterns of the adult fish following release. However, if juvenile data were collected at all release sites, the success of the trap and haul operations in those streams could also be evaluated. Together, data from the telemetry project and juvenile sampling can be used to better evaluate the overall effectiveness of the transport program. A better understanding of the population response to the trap and haul program could lead to more effective management of the federally listed N Fk. Toutle steelhead and coho. Please feel free to contact Dustin Hinson at dhinson@stewardandassociates.com if you have any further questions about the telemetry project and the potential benefits of including juvenile sampling in their project.

Using the estimated capture and mortality numbers generated for the two streams we are already sampling under permit #1330, we estimate that sampling the additional 2 streams would double the captures and indirect mortality. Lacking any previous information, we have no better way to anticipate “take”. We feel that the information, if collected, would

significantly benefit the telemetry project without significant impact on the populations residing in each stream. Therefore, in order to pursue the opportunity to include the other 2 sites in our sampling, I am requesting a modification of our permit to allow for sampling at Alder and Bear Creeks. Coverage for additional capture/handle/release of 750 steelhead and 200 coho, and indirect mortality of 2 coho and 8 steelhead would allow for this additional work to be conducted.

Summary of Requested Modifications:

	Juvenile Coho	Juvenile Steelhead
Capture/Handle/Release	400	1500
Indirect Mortality	4	15

Your help with this matter is much appreciated. Please feel free to contact me if there are any questions or concerns about this request.

Sincerely,

Brian Fransen